



MICROTEK
IN-CIRCUIT EMULATORS

WindRiver® Tornado®
Interface for Microtek PowerPack® Emulators
Preliminary Information

Integrated Embedded Software Debug Environment

The Microtek WindRiver Tornado Interface provides an integrated debugging package that combines the non-intrusive characteristics of in-circuit emulation with the Tornado interface's understanding of the VxWorks operating system. The combination provides the user with a strong tool for debugging embedded applications. This package provides an integrated Tornado interface connected to a state-of-the-art emulator.

Debug Your Startup Code Faster

Before the WindRiver operating system starts in the target and Tornado can be used, the system needs to go through start up code to initialize the hardware. Microtek includes an easy to use Windows interface that makes debugging start up code faster and easier. It includes the ability to control CPU registers, view and modify memory, step through instructions at the source/instruction level, and load code into memory or flash memory. When combined with the Tornado debug environment, you get a complete debug solution for all of the issues you will face during your development cycle.

System Integration

The open architecture of Tornado allows the Microtek

emulator to connect via a backend server. The features of Tornado are implemented using low-level functions of the emulator. Memory reads and writes, setting breakpoints, downloading are all accessible to Tornado and provided without using the resources of the target. This also means that the connection to the target is secure from unexpected target crashes and allows postmortem information to be gathered that would not be available with connections using target-based monitors.

Tornado's Integrated Development Environment

WindRiver provides a powerful set of development tools for embedded design. Tornado includes the debugger and a C and C++ compiler, an assembler, a linker, a shell, a source control system, and several generic board support packages, all supported with on-line documentation that can be searched by keyword. The package is designed to instruct the user on both the tools for development and the operating system. WindRiver's knowledge of the embedded design task makes the documentation especially valuable.

Features

- *Provide debug connection without using the target's serial, network, or memory to support debug*
- *Ability to set hardware and software breakpoints*

- *Download code from the host to emulator using either serial or Ethernet connection*
- *Program target flash devices*
- *Processor control available after operating system crash*
- *Program internal CPU registers including MMX, Floating Point, and MSR registers for Pentium® Processors*
- *Provides Tornado features WindRiver defines as "system mode"*

Supported Processors:

- *Intel 386®EX/CX/SX*
- *Intel 486®DX/DX2/DX4*
- *Pentium®*
- *Pentium®-II*

PC Host Requirements

PowerPack SLD requires a 486 or better PC (Pentium recommended) with a minimum of 8 megabytes of RAM (16 recommended for Win95, 32 recommended for Windows NT), an SVGA or better color monitor, CD drive, and a mouse.

Operating System

Windows 3.1, 3.11, Windows 95, Windows NT 4.0

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